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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,053	03/11/2004	Irwin L. Newberg	PD-02W200	8597

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EXAMINER

BARKER, MATTHEW M

ART UNIT PAPER NUMBER

3662

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/800,053	<b>Applicant(s)</b> NEWBERG ET AL.	
	<b>Examiner</b> Matthew M. Barker	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-32 is/are allowed.
- 6) ☒ Claim(s) 1-27 and 33-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: Page 5, line 144 of the specification refers to "step 36" of Figure 2, however the contents of the paragraph relates to step 38.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-13, 17-19, 21-23, 25-27, 33-34, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Mills et al. ('479).

Regarding claim 1, Mills discloses a system for generating a simulated radar return signal (Figure 1), including the claimed first means for receiving target and waveform parameters and generating a composite digital signal (See Abstract, lines 7-11; column 3, lines 2-8; column 5, lines 61-66); and the claimed second means for converting the digital signal to an analog signal (column 4, lines 18-19).

Regarding claim 2, Mills discloses a means for up converting the analog signal to a radio frequency signal (column 4, lines 57-59).

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Regarding claim 3, Mills discloses a digital to analog converter (column 4, lines 24-25).

Regarding claim 4, Mills discloses the claimed calculating (see claim 1 above).

Regarding claim 6, it is inherent to the system of Mills that digital data samples are generated at each time interval that the digital to analog converter samples data.

Regarding claim 7, Mills discloses a means for storing digital data samples (column 4, line 16).

Regarding claim 8, it is inherent to the system of Mills that digital data samples at each time interval the digital to analog converter samples data.

Regarding claim 9, Mills discloses the claimed memory (column 4, line 16).

Regarding claim 10, Mills discloses the claimed processor (11).

Regarding claim 11, a high speed bus is inherent to the DRFM (12).

Regarding claim 12, Mills discloses an up converter (column 4, lines 57-59).

Regarding claim 13, the system of Mills is adapted to test a radar system (See Abstract).

Regarding claim 17, the memory is adapted to receive a synchronization signal from the radar (Figure 1 and column 4, lines 5-19).

Regarding claim 18, the memory is adapted to receive and store digitally recorded data and output to the digital to analog converter (column 4, lines 13-19).

Regarding claim 19, Mills discloses the claimed means for receiving input data regarding a target scenario and calculating parameters (11,12, also see column 5, lines 42-66).

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Regarding claim 21, Mills discloses the claimed parameters (column 5, lines 44-45, 61-65).

Regarding claim 22, Mills discloses a radar target simulator (Figure 1), including the claimed processor (11,12), digital to analog converter (column 4, lines 24-25), and up converter (column 4, lines 57-59).

Regarding claim 23, Mills discloses the claimed computer (11,12, also see column 5, lines 42-66).

Regarding claims 25 and 26, Mills discloses the claimed memory (column 4, lines 13-19).

Regarding claim 27, Mills discloses the claimed interface computer (11,12, also see column 5, lines 42-66); one synthesis module, including the claimed processor (See Abstract, lines 7-11; column 3, lines 2-8; column 5, lines 61-66), digital to analog converter (column 4, lines 24-25), and up converter (column 4, lines 57-59).

Regarding claim 33, Mills discloses the claimed system including a processor (11,12, also see column 5, lines 42-66); digital to analog converter (column 4, lines 24-25); and up converter (column 4, lines 57-59). The mechanism tests the transmitted signal from the radar.

Regarding claim 34, Mills discloses the claimed mechanism for receiving, delaying, and transmitting (see Abstract, lines 3-7).

Regarding claim 36, the claimed method is inherent to the system of claim 2.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 15, 16, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills as applied to claims 3, 4, 10, 19 and 22 above, and in further view of Vencel et al. ('463).

Regarding claims 5 and 24, Mills discloses a system for generating a simulated radar return signals, but fails to disclose that the signals include returns from targets embedded in clutter.

Vencel discloses a radar return signal generator that includes clutter synthesis (column 7, lines 33-40).

It would have been obvious to modify Mills to include clutter synthesis as taught by Vencel in order to add to the realism of the radar return signals.

Regarding claim 15, Mills does not disclose that the digital to analog converter is adapted to receive a reference signal from the radar.

Vencel discloses the claimed signal (See figure 1, "RF signals" and column 5, lines 50-65).

It would have been obvious to modify Mills to include the reference signal as taught by Vencel to eliminate the need for a separate clock.

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Regarding claim 16, Mills does not disclose that the processor is adapted to receive a synchronization signal from the radar. Vencel discloses that radar (16) supplies the processor with the claimed synchronization signal (column 5, lines 19-21).

It would have been obvious to modify Mills to include the synchronization signal as taught by Vencel in order to provide return signals only when the radar device is ready to receive.

Regarding claim 20, Mills does not explicitly disclose the claimed plurality of targets. Vencel discloses a system wherein a target scenario includes a plurality of targets (see Abstract and figure 3).

It would have been obvious to modify Mills to include the plurality of targets taught by Vencel in order to provide more realistic testing for situations where multiple targets exist.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills as applied to claim 13 above.

Mills does not disclose that the reference signal used in up converting is received from the radar. However, using a reference signal from the radar is an obvious alternative to the local oscillator signal of Mills for up converting a signal to the radar frequency. Using a signal from the radar instead of an oscillator reduces the cost in parts to produce the device.

7. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills in view of the admitted prior art.

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Mills discloses the claimed system including a processor (11,12, also see column 5, lines 42-66); digital to analog converter (column 4, lines 24-25); and up converter (column 4, lines 57-59).

Mills does not disclose a mechanism including a fiber optic delay line for testing the transmit signal from the radar.

The admitted prior art discloses that fiber optic delay lines for testing a transmit signal from a radar are well known. (See figures 6-7, and page 15 of the specification of the present application.) It would have been obvious to modify Mills to include fiber optic delay line testing in order to eliminate the need for separate devices to test a radar system's transmit and receive capability.

#### ***Allowable Subject Matter***

8. Claims 28-32 are allowed.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Banura, Chin, Otoide, Robbins, Deliberis, Johnson, Montague, Fredericks, Tsai, Pace, Koshevoi, Zebker, Cronyn, and Minarik relate to radar target simulators.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew M. Barker whose telephone number is (571)272-3103. The examiner can normally be reached on M-F, 7:30 AM-4:00 PM.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*MMB*

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